

# Mineral Industry Surveys

---

**For information, contact:**

Joyce A. Ober, Sulfur Commodity Specialist  
U.S. Geological Survey  
983 National Center  
Reston, VA 20192  
Telephone: (703) 648-7717, Fax: (703) 648-7757  
E-mail: [jober@usgs.gov](mailto:jober@usgs.gov)

Raymond I. Eldridge III (Data)  
Telephone: (703) 648-7793  
Fax: (703) 648-7792  
E-mail: [reldridg@usgs.gov](mailto:reldridg@usgs.gov)

**Internet:** <http://minerals.usgs.gov/minerals>

## SULFUR IN JANUARY 2005

During the month, production of recovered elemental sulfur was 740,000 metric tons, according to the U.S. Geological Survey. January production was 10% lower than that of December 2004 and slightly lower than that of January 2004. Shipments were 14% lower than those of December 2004. Producers' ending stocks for January 2005 were 196,000 tons.

Decreases in production are typical early in the year as the result of maintenance activities at oil refineries. Lower shipments can be attributed to slow downs at refineries and reduced demand at phosphate fertilizer operations.

Import and export data for January 2005 were not available at the time of publication and will be published in the Sulfur in

February 2005 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for December 2004 were estimated to be 226,000 tons; exports were 111,000 tons. Imports of sulfuric acid for December 2004 were 251,000 tons; exports were 13,000 tons.

Significant adjustments have been made to the sulfur import data. Reports from the U.S. Census Bureau appear to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

TABLE 1  
SALIENT SULFUR STATISTICS<sup>1</sup>

(Thousand metric tons)

| Period                | Production             |             |                    | Shipments,<br>all sources | Ending<br>stocks <sup>3</sup> |
|-----------------------|------------------------|-------------|--------------------|---------------------------|-------------------------------|
|                       | Petroleum <sup>2</sup> | Natural gas | Total              |                           |                               |
| 2003                  | 6,970                  | 1,950       | 8,920              | 8,920                     | 206                           |
| 2004:                 |                        |             |                    |                           |                               |
| January               | 585                    | 165         | 749                | 769                       | 180                           |
| February <sup>r</sup> | 526                    | 155         | 680                | 690                       | 182                           |
| March                 | 597                    | 176         | 773                | 782                       | 177                           |
| April                 | 612                    | 161         | 773                | 772                       | 178                           |
| May                   | 614                    | 170         | 784                | 780                       | 185                           |
| June                  | 608                    | 164         | 772                | 771                       | 191                           |
| July                  | 640                    | 173         | 813                | 804                       | 201                           |
| August                | 644                    | 172         | 815                | 830                       | 189                           |
| September             | 589                    | 155         | 744                | 749                       | 185                           |
| October               | 591                    | 163         | 754                | 758                       | 183                           |
| November              | 612                    | 167         | 779                | 761                       | 200                           |
| December              | 652 <sup>r</sup>       | 167         | 819 <sup>r</sup>   | 835 <sup>r</sup>          | 185                           |
| Total                 | 7,270                  | 1,990       | 9,260 <sup>r</sup> | 9,300                     | XX                            |
| 2005:                 |                        |             |                    |                           |                               |
| January <sup>p</sup>  | 572                    | 167         | 740                | 722                       | 196                           |

<sup>p</sup>Preliminary. <sup>r</sup>Revised. XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes a small quantity from coking operations.

<sup>3</sup>Subject to inventory adjustments.

TABLE 2  
U.S. IMPORTS OF SULFUR<sup>1</sup>

(Thousand metric tons and thousand dollars)

| Period                | Canada                |                    | Mexico   |                    | Total, all countries <sup>2</sup> |                    |
|-----------------------|-----------------------|--------------------|----------|--------------------|-----------------------------------|--------------------|
|                       | Quantity <sup>e</sup> | Value <sup>3</sup> | Quantity | Value <sup>3</sup> | Quantity <sup>e</sup>             | Value <sup>3</sup> |
| 2003:                 |                       |                    |          |                    |                                   |                    |
| January-December      | 2,080                 | 32,000             | 535      | 26,500             | 2,810                             | 69,100             |
| December              | 160                   | 2,770              | 40       | 1,960              | 230                               | 6,180              |
| 2004:                 |                       |                    |          |                    |                                   |                    |
| January               | 180                   | 1,720              | 50       | 2,400              | 267                               | 5,850              |
| February              | 160                   | 3,130              | 35       | 3,050              | 225                               | 7,930              |
| March                 | 180                   | 3,660              | 25       | 2,570              | 225                               | 7,210              |
| April                 | 180                   | 3,060              | 54       | 2,550              | 279                               | 8,040              |
| May                   | 180                   | 2,830              | 57       | 2,680              | 265                               | 6,880              |
| June                  | 180                   | 2,560              | 49       | 2,440              | 247                               | 5,980              |
| July                  | 160                   | 2,790              | 54       | 2,550              | 251                               | 7,150              |
| August                | 160                   | 2,050              | 35       | 1,780              | 221                               | 5,290              |
| September             | 160                   | 2,460              | 49       | 2,620              | 240                               | 6,850              |
| October               | 160                   | 1,740              | 51       | 2,170              | 220                               | 4,370              |
| November              | 150                   | 2,010              | 31       | 1,240              | 186                               | 5,700              |
| December <sup>e</sup> | 160                   | 2,660              | 55       | 2,200              | 226                               | 5,400              |
| Total                 | 2,010                 | 28,600             | 545      | 28,300             | 2,850                             | 76,600             |

<sup>e</sup>Estimated.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentaSul North America Sulphur Service.

TABLE 3  
U.S. IMPORTS OF SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

| Period           | Canada   |                |                    | Europe   |                |                    | Total, all countries <sup>2</sup> |                |                    |
|------------------|----------|----------------|--------------------|----------|----------------|--------------------|-----------------------------------|----------------|--------------------|
|                  | Quantity | Sulfur content | Value <sup>3</sup> | Quantity | Sulfur content | Value <sup>3</sup> | Quantity                          | Sulfur content | Value <sup>3</sup> |
| 2003:            |          |                |                    |          |                |                    |                                   |                |                    |
| January-December | 387      | 126            | 16,200             | 266      | 86             | 5,870              | 905                               | 298            | 28,800             |
| December         | 41       | 13             | 1,880              | 20       | 7              | 734                | 75                                | 25             | 2,900              |
| 2004:            |          |                |                    |          |                |                    |                                   |                |                    |
| January          | 97       | 32             | 3,930              | --       | --             | --                 | 114                               | 37             | 4,610              |
| February         | 179      | 58             | 7,480              | 21       | 7              | 488                | 204                               | 69             | 8,450              |
| March            | 167      | 54             | 6,760              | 6        | 2              | 163                | 176                               | 58             | 7,280              |
| April            | 203      | 66             | 7,710              | 14       | 5              | 344                | 221                               | 72             | 8,410              |
| May              | 190      | 62             | 7,230              | 22       | 7              | 555                | 222                               | 72             | 8,120              |
| June             | 166      | 54             | 6,350              | 11       | 3              | 247                | 192                               | 63             | 7,860              |
| July             | 160      | 52             | 5,660              | 10       | 3              | 357                | 172                               | 56             | 6,230              |
| August           | 133      | 43             | 4,920              | 33       | 11             | 937                | 194                               | 63             | 6,250              |
| September        | 150      | 49             | 5,080              | 29       | 9              | 1,090              | 206                               | 67             | 6,480              |
| October          | 176      | 57             | 6,450              | 19       | 6              | 946                | 215                               | 70             | 7,480              |
| November         | 160      | 52             | 5,930              | 11       | 3              | 289                | 218                               | 71             | 7,500              |
| December         | 140      | 46             | 4,970              | 30       | 10             | 655                | 251                               | 82             | 7,610              |
| Total            | 1,920    | 625            | 72,500             | 206      | 66             | 6,670              | 2,390                             | 780            | 86,300             |

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF SULFUR AND SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

| Period           | Sulfur   |                    | Sulfuric acid |                |                    |
|------------------|----------|--------------------|---------------|----------------|--------------------|
|                  | Quantity | Value <sup>2</sup> | Quantity      | Sulfur content | Value <sup>2</sup> |
| 2003:            |          |                    |               |                |                    |
| January-December | 742      | 46,100             | 207           | 68             | 18,800             |
| December         | 67       | 3,920              | 12            | 4              | 1,360              |
| 2004:            |          |                    |               |                |                    |
| January          | 18       | 1,740              | 10            | 3              | 1,120              |
| February         | 6        | 1,530              | 13            | 4              | 1,520              |
| March            | 84       | 5,930              | 14            | 5              | 3,190              |
| April            | 107      | 6,550              | 11            | 4              | 1,380              |
| May              | 81       | 4,040              | 10            | 3              | 2,370              |
| June             | 36       | 1,980              | 26            | 8              | 1,610              |
| July             | 30       | 1,670              | 13            | 4              | 1,280              |
| August           | 134      | 10,100             | 40            | 13             | 3,210              |
| September        | 89       | 5,630              | 11            | 4              | 1,090              |
| October          | 84       | 5,090              | 23            | 7              | 1,850              |
| November         | 31       | 2,160              | 20            | 7              | 1,590              |
| December         | 111      | 7,580              | 13            | 4              | 1,120              |
| Total            | 811      | 54,000             | 204           | 66             | 21,300             |

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5  
U.S. CONSUMPTION OF SULFUR<sup>1</sup>

(Thousand metric tons)

| Period           | Domestic sources <sup>2</sup> | Imports <sup>e</sup> | Consumption |
|------------------|-------------------------------|----------------------|-------------|
| 2003:            |                               |                      |             |
| January-December | 8,170                         | 2,810                | 11,000      |
| December         | 739                           | 230                  | 969         |
| 2004:            |                               |                      |             |
| January          | 751                           | 267                  | 1,020       |
| February         | 684                           | 225                  | 909         |
| March            | 698                           | 225                  | 923         |
| April            | 665                           | 279                  | 944         |
| May              | 699                           | 265                  | 964         |
| June             | 735                           | 247                  | 982         |
| July             | 774                           | 251                  | 1,030       |
| August           | 696                           | 221                  | 917         |
| September        | 660                           | 240                  | 900         |
| October          | 674                           | 220                  | 894         |
| November         | 730                           | 186                  | 916         |
| December         | 724                           | 226                  | 950         |
| Total            | 8,490                         | 2,850                | 11,300      |

<sup>e</sup>Estimated.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Calculated as shipments minus exports.

TABLE 6  
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,  
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT<sup>1</sup>

(Thousand metric tons)

| District and source       | January 2005 <sup>p</sup> |           | December 2004    |                  | Total 2005 <sup>2</sup> |           | Year to date 2004 <sup>2</sup> |                  |
|---------------------------|---------------------------|-----------|------------------|------------------|-------------------------|-----------|--------------------------------|------------------|
|                           | Production                | Shipments | Production       | Shipments        | Production              | Shipments | Production                     | Shipments        |
| PAD 1:                    |                           |           |                  |                  |                         |           |                                |                  |
| Petroleum and coke        | 23                        | 21        | 20               | 20               | 23                      | 21        | 17 <sup>r</sup>                | 17 <sup>r</sup>  |
| Natural gas               | 2                         | 2         | 2                | 2                | 2                       | 2         | 2                              | 2                |
| Total                     | 19                        | 19        | 22               | 22               | 19                      | 19        | 19 <sup>r</sup>                | 19 <sup>r</sup>  |
| PAD 2:                    |                           |           |                  |                  |                         |           |                                |                  |
| Petroleum and coke        | 75                        | 67        | 77 <sup>r</sup>  | 80 <sup>r</sup>  | 75                      | 67        | 74 <sup>r</sup>                | 77 <sup>r</sup>  |
| Natural gas               | 3                         | 3         | 4                | 4                | 3                       | 3         | 4                              | 4                |
| Total                     | 78                        | 70        | 81 <sup>r</sup>  | 84 <sup>r</sup>  | 78                      | 70        | 78 <sup>r</sup>                | 81 <sup>r</sup>  |
| PAD 3: <sup>3</sup>       |                           |           |                  |                  |                         |           |                                |                  |
| Petroleum and coke        | 357                       | 378       | 435 <sup>r</sup> | 448              | 357                     | 378       | 382 <sup>r</sup>               | 389 <sup>r</sup> |
| Natural gas               | 44                        | 45        | 45               | 44               | 44                      | 45        | 47                             | 49 <sup>r</sup>  |
| Total                     | 401                       | 400       | 479 <sup>r</sup> | 492              | 401                     | 400       | 429 <sup>r</sup>               | 439 <sup>r</sup> |
| PAD 4 and 5: <sup>4</sup> |                           |           |                  |                  |                         |           |                                |                  |
| Petroleum and coke        | 117                       | 115       | 120 <sup>r</sup> | 120 <sup>r</sup> | 117                     | 115       | 111 <sup>r</sup>               | 116 <sup>r</sup> |
| Natural gas               | 118                       | 114       | 116              | 118 <sup>r</sup> | 118                     | 114       | 112 <sup>r</sup>               | 114 <sup>r</sup> |
| California                | 89                        | 86        | 89 <sup>r</sup>  | 90 <sup>r</sup>  | 89                      | 86        | 85 <sup>r</sup>                | 90 <sup>r</sup>  |
| Total                     | 235                       | 229       | 236 <sup>r</sup> | 238 <sup>r</sup> | 235                     | 229       | 223 <sup>r</sup>               | 230 <sup>r</sup> |
| Grand total               | 740                       | 722       | 819 <sup>r</sup> | 835 <sup>r</sup> | 740                     | 722       | 749 <sup>r</sup>               | 769 <sup>r</sup> |

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include revisions to prior months.

<sup>3</sup>Includes the U.S. Virgin Islands.

<sup>4</sup>Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7  
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS<sup>1</sup>

(Million metric tons per year [annualized basis] and  
dollars per metric ton for period shown)

|  | 2005              | 2004              |                    | Total             |
|--|-------------------|-------------------|--------------------|-------------------|
|  | January           | December          | November           |                   |
| Production   | 8.71 <sup>p</sup> | 9.67 <sup>r</sup> | 9.50               | 9.25              |
| Shipments  | 8.50 <sup>p</sup> | 9.86 <sup>r</sup> | 9.28               | 9.30              |
| Exports of sulfur  | NA                | 1.31              | 0.38               | 0.81              |
| Imports of sulfur:   |                   |                   |                    |                   |
| Canada   | NA                | 1.89 <sup>e</sup> | 1.83 <sup>e</sup>  | 2.01 <sup>e</sup> |
| Mexico   | NA                | 0.65              | 0.38               | 0.54              |
| Total <sup>2</sup>   | NA                | 2.67 <sup>e</sup> | 2.27 <sup>e</sup>  | 2.85 <sup>e</sup> |
| Export of H <sub>2</sub> SO <sub>4</sub>                   | NA                | 0.15              | 0.24               | 0.21              |
| Import of H <sub>2</sub> SO <sub>4</sub> :                 |                   |                   |                    |                   |
| Canada   | NA                | 1.65              | 1.95               | 1.92              |
| Europe   | NA                | 0.35              | 0.13               | 0.21              |
| Total <sup>2</sup>   | NA                | 2.96              | 2.66               | 2.39              |
| Consumption: <sup>3</sup>                                  |                   |                   |                    |                   |
| Domestic sources   | NA                | 8.55              | 8.91               | 8.49              |
| Imports  | NA                | 2.67 <sup>e</sup> | 2.27 <sup>e</sup>  | 2.85 <sup>e</sup> |
| Total  | NA                | 11.22             | 11.18 <sup>r</sup> | 12.01             |
| Sulfur export values <sup>4</sup>                          | NA                | \$68              | \$70               | \$67              |
| Sulfur import values: <sup>4</sup>                         |                   |                   |                    |                   |
| Canada   | NA                | \$17              | \$13               | \$14              |
| Mexico   | NA                | \$40              | \$40               | \$52              |
| Average  | NA                | \$24              | \$31               | \$27              |
| H <sub>2</sub> SO <sub>4</sub> export values <sup>4</sup>  | NA                | \$86              | \$79               | \$105             |
| H <sub>2</sub> SO <sub>4</sub> import values: <sup>4</sup> |                   |                   |                    |                   |
| Canada   | NA                | \$35              | \$37               | \$38              |
| Europe   | NA                | \$22              | \$26               | \$32              |
| Average  | NA                | \$30              | \$34               | \$36              |

<sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised. NA Not available.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes other countries not listed.

<sup>3</sup>Because January trade data were not available, January consumption was not determined.

<sup>4</sup>Average value per ton for most recent data available.